

Appln. No. 10/723,527

Attorney Docket No. 10541-1863

I. Amendments to the Specification

Please replace paragraph [0029] beginning at page 11 with the following amended paragraph:

[0029] Finally, the plurality of conductors 32 forming the stator winding 24 are organized into filars. In accordance with the present invention, a multiple filar construction is employed, such as a bi-filar, tri-filar, etc. As used herein, a multiple filar construction is defined as a set of conductors electrically connected [[and parallel]]. A bi-filar construction is depicted in FIG. 5. A first conductor 32a and a second conductor 32b are depicted and are electrically connected [[in parallel (not shown)]] (FIG. 8). The two conductors 32a, 32b are prepared to sit within the stator core 22 in a fashion whereby the straight segments 44a, 44b reside in common slots 28 (i.e. aligned circumferential positions). Further, the end loops 46a, 46b of the filars are located axially opposite the other filar. That is, the end loops 46a of the first filar are generally located directly axially opposite the end loops 46b of the second filar. In this way, the correct frequency and phase of the current induced in each conductor 32a, 32b are aligned such that they are additive, and thus do not cancel each other out by way of their parallel electrical connection. It can also be seen that the straight segments 44a of conductor 32a all reside in layer 36, while the straight segments 44b of the other conductor 32b reside in layer 34.

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Please replace paragraph [0034] at page 13 with the following amended paragraph:

[0034] Another advantage is obtained in that a bi-filar construction of the conductors 32 will have a smaller radial depth or width of a corresponding monofilar conductor, and therefore is not as stiff and will ease insertion into the slots 28 of the stator core 22. A less stiff wire will also minimize the force on paper insulation 29 (FIG. 9) positioned between the conductors 32 and the core 22 which will allow the use of thinner insulation paper such as less than .0045 inches. This will not only reduce cost, but it will also improve the slot fill factor. Finally, the radial kicks defined by radial extensions 52 proximate a portion of the end loops 46 of each conductor 32 in the outermost layer 34, extend radially beyond the radial position of the straight segments of the outermost layer 34 by approximately the radial width of one wire. For the bi-filar construction, the radial extensions 52 will not kick out as far radially as the wires are now smaller in radial width. This will minimize the potential interference between the end loops 46 of the stator winding 24 from interfering with the housing that surrounds the stator. It will also allow the housing to fit closer to the stator winding 24 and therefore be smaller in diameter size which will improve the power density, defined as output divided by alternator volume, of the alternator.

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